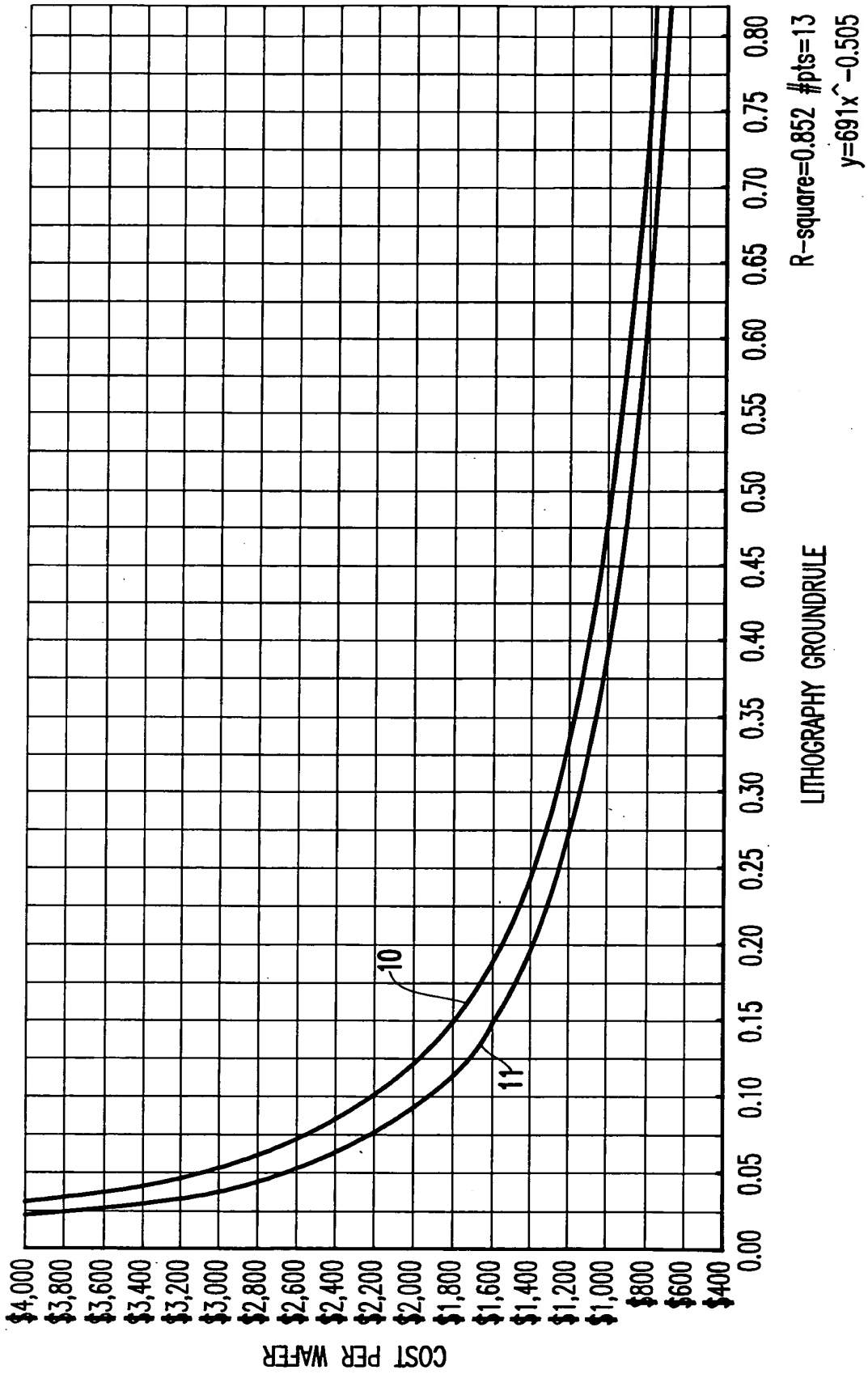

COST PER WAFER
$4,000
$3,800
$3,600
$3,400
$3,200
$3,000
$2,800
$2,600
$2,400
$2,200
$2,000
$1,800
$1,600
$1,400
$1,200
$1,000
$800
$600
$400
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.40
0.45
0.50
0.55
0.60
0.65
0.70
0.75
0.80
LITHOGRAPHY GROUNDRULE
R-square=0.852 #pts=13
y=691x^-0.505
10
11

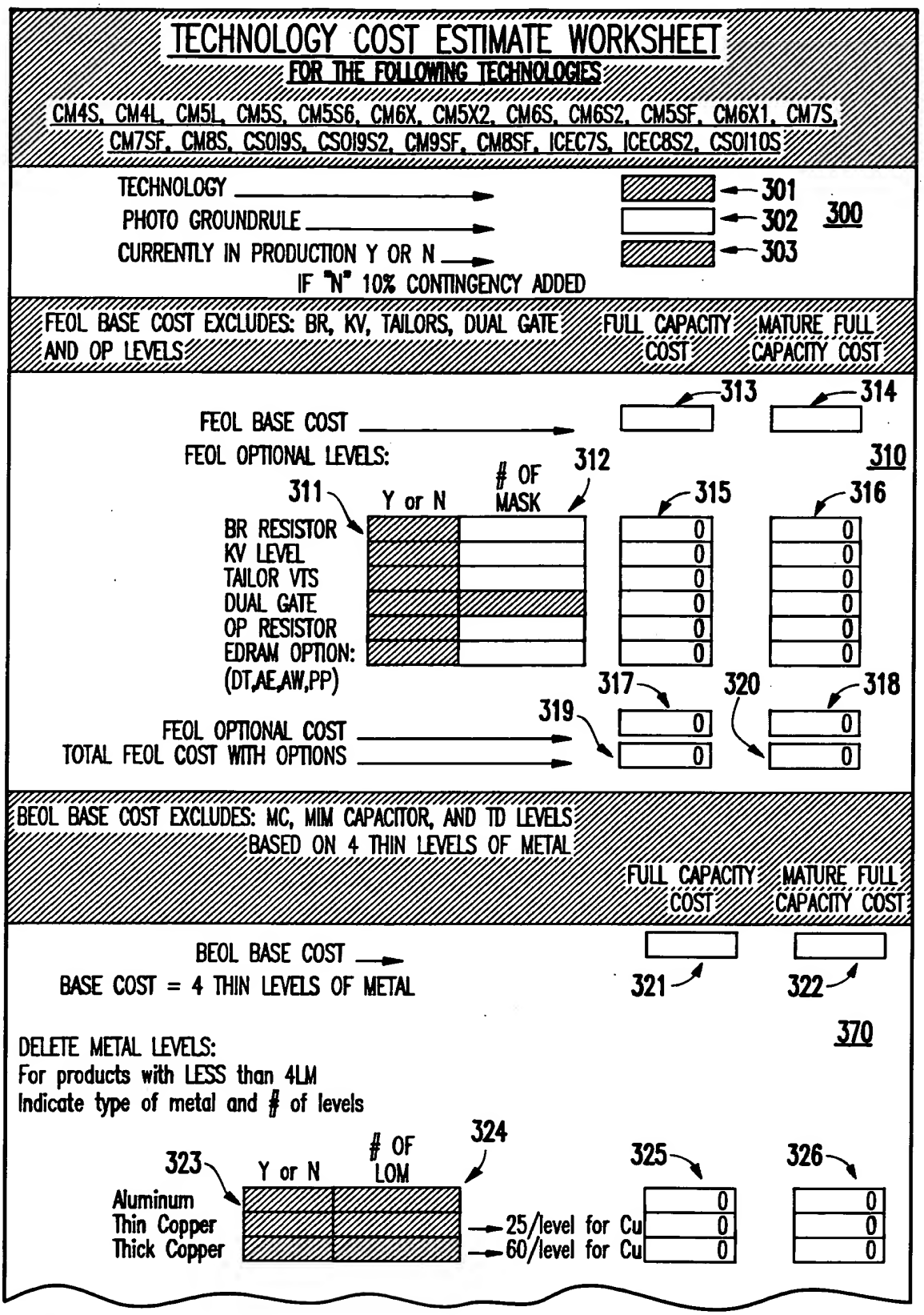
FIG.1

PREDICTED vs ACTUAL COST COMPARISON
OF
TECHNOLOGY COST ESTIMATE WORKSHEET

TECHNOLOGY	NAME	PREDICTED	ACTUAL	% DELTA
CM4L 3LM	OMNI	$872	$833	4.7%
CM4LP 3LM	PHEONIX	$805	$856	-6.0%
CM5S 4LM	MUSTANG	$1,188	$1,121	6.0%
CM5S1 5LM	RACER	$1,236	$1,227	0.7%
CM5X 4LM	APACHE	$1,191	$1,152	3.4%
CM5X2 4LM	FURY	$1,248	$1,167	6.9%
CM6S 4LM	HURRICANE	$1,322	$1,340	-1.3%
CM6S2 4LM	TIGGER	$1,407	$1,299	8.3%
CM6S2 5LM	SC / 98	$1,560	$1,469	6.2%
CM6SF 4LM	PYTHON	$1,531	$1,437	6.5%
CM6SF 5LM	LONGTRAIL	$1,816	$1,691	7.4%
CM6X 4LM	TYPHOON	$1,704	$1,670	2.0%
CM7S 6LM	LONESTAR	$2,464	$2,607	-5.5%
CM7SF 3LM	COMMANDER	$1,918	$2,020	-5.0%
CM8S 4LM	BLIZZARD	$2,238	$2,240	-0.1%
SIGE6SF	COPERNICUS	$2,809	$2,726	3.0%
ICEC8S2 6LM	MAJESTIC*	$3,214	$3,325	-3.3%
ICEC9S 7LM	MAKO**	$3,870	$3,534	9.5%

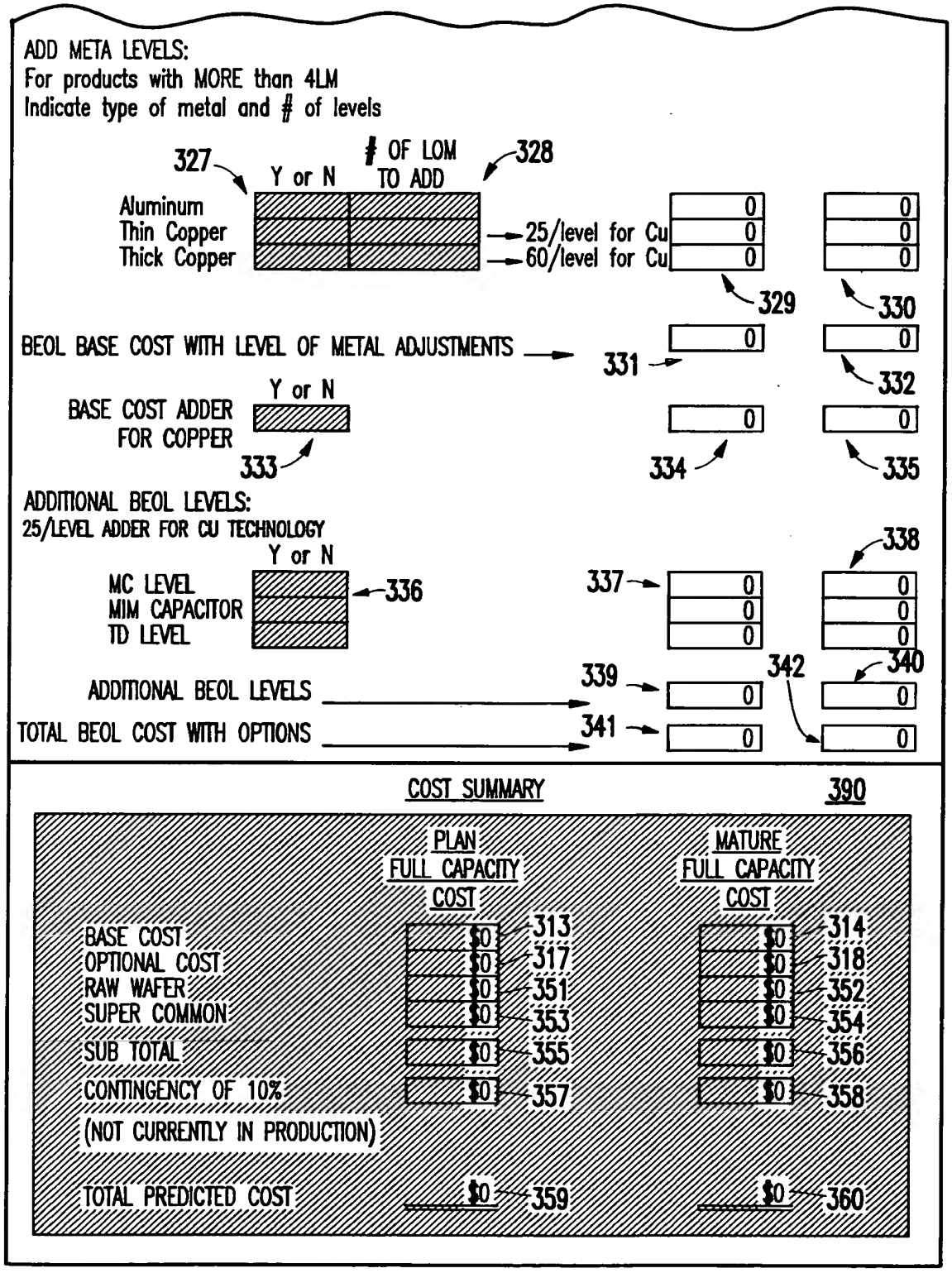
* Predictive Cost Estimated 12 Months Prior to Actual
** Predictive Cost Estimated 18 Months Prior to Actual

FIG.2



*Shaded boxes need input

FIG.3A



*Shaded boxes need input

FIG.3B

FIG.3A
FIG.3B

FIG.3C

EQUATIONS FOR TECHNOLOGY COST ESTIMATE WORKSHEET

FEATURE	FULL CAPACITY COST EQUATION	MATURE COST EQUATION	WHERE:	HOW DERIVED
FEOL BASE	Y=272X^-0.53	Y=241X^-0.493	Y = FEOL Base Cost X = Groundrule	Least Squares Analysis
BEOL BASE	Y=417X^-0.486	Y=388X^-0.461	Y = BEOL Base Cost X = Groundrule	Least Squares Analysis
BR RESISTOR	Y=15.1X^-0.362	Y=13.5X^-0.352	Y = BR Resistor Cost X = Groundrule	Least Squares Analysis
KV LEVEL	Y=15.5X^-0.297	Y=12.5X^-0.489	Y = KV Level Cost X = Groundrule	Least Squares Analysis
TAILOR VTS	Y=49.8X^-0.048	Y=45.9X^-0.0302	Y = Tailor VTs Cost X = Groundrule	Least Squares Analysis
DUAL GATE	Y=38.2X^0.803	Y=33.7X^0.815	Y = Dual Gate Cost X = Dual Gate Levels	Least Squares Analysis
OP RESISTOR	Y=19.8X^-0.512	Y=17.9X^-0.502	Y = OP Resistor Cost X = Groundrule	Least Squares Analysis
MC LEVEL	Y=58.8X^-0.597	Y=53.9X^-0.584	Y = MC Level Cost X = Groundrule	Least Squares Analysis
METAL LEVELS	Y=111X^-0.302	Y=103X^-0.282	Y = Metal Level Cost X = Groundrule	Least Squares Analysis
MIM CAPACITOR	Y=34.2X^-0.523	Y=30.8X^-0.533	Y = MIM Cap Cost X = Groundrule	Least Squares Analysis
TD LEVEL	85	77	NA	Direct Measurement
EDRAM	475	450	NA	Direct Measurement
CU ADDER	100	80	NA	Direct Measurement

FIG.4

TECHNOLOGY COST MODEL OVERVIEW

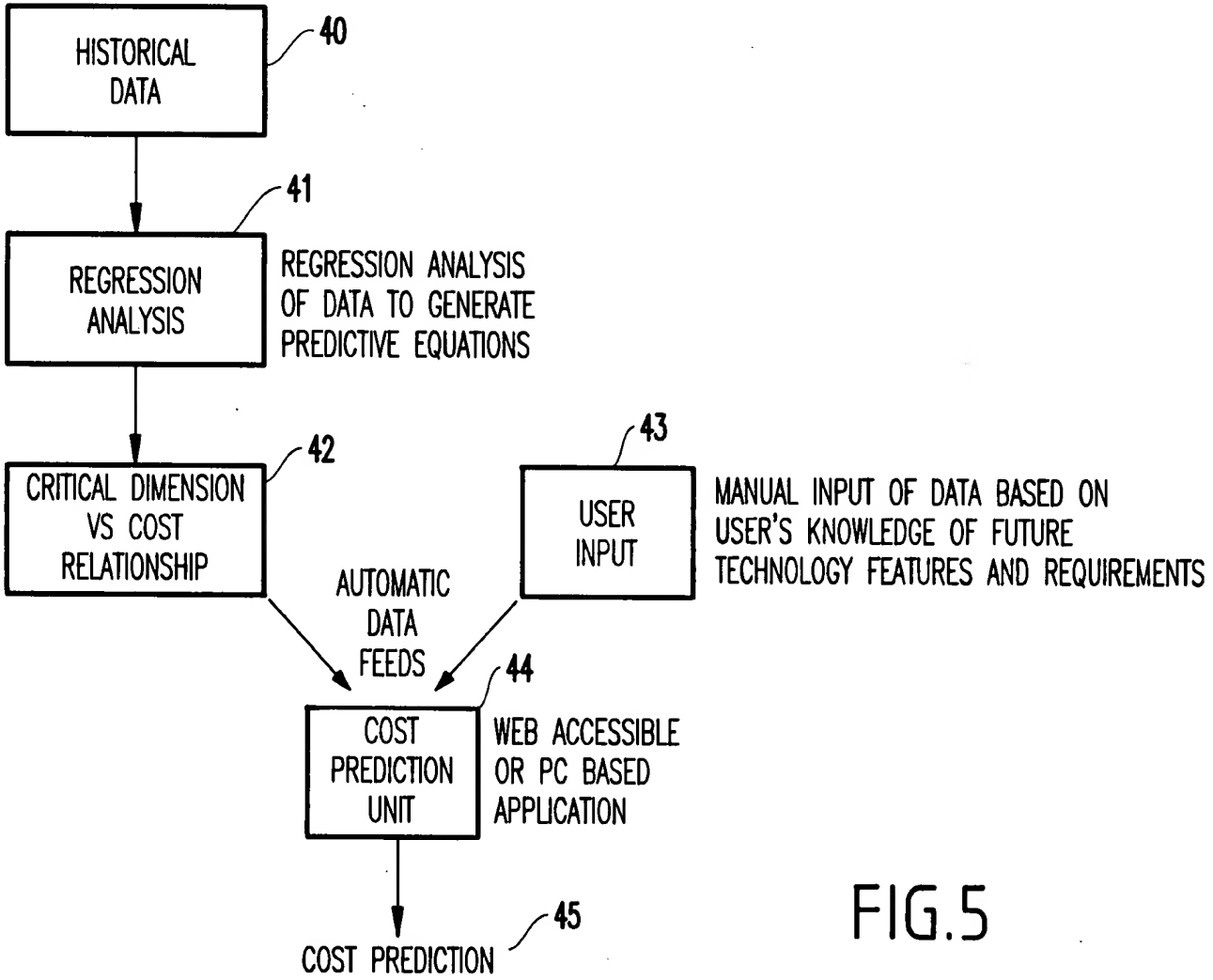


FIG.5

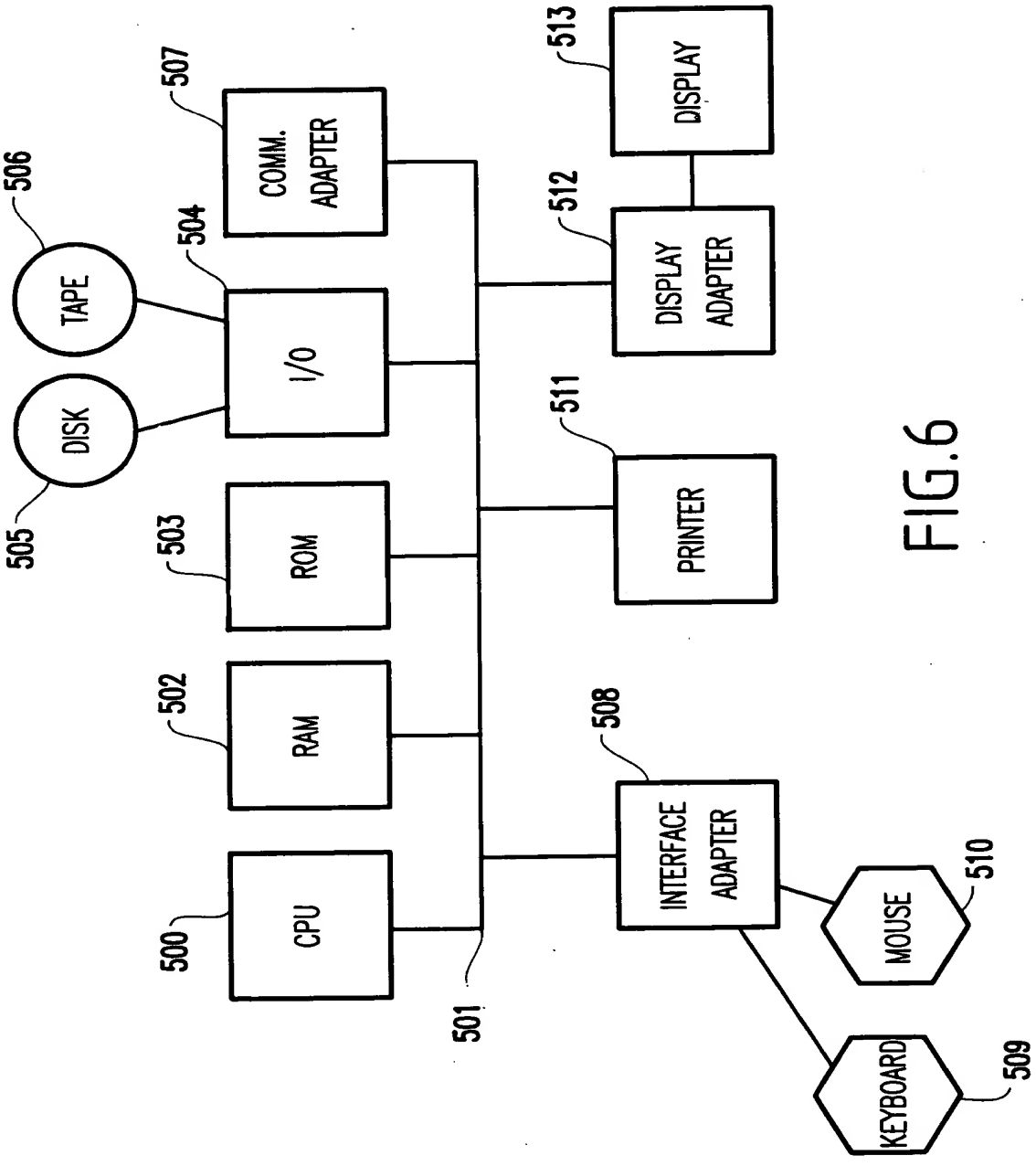

CPU
500
RAM
502
ROM
503
I/O
504
DISK
505
TAPE
506
COMM. ADAPTER
507
INTERFACE ADAPTER
508
KEYBOARD
509
MOUSE
510
PRINTER
511
DISPLAY ADAPTER
512
DISPLAY
513
501

FIG.6